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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,661	08/02/2001	Michael Hohmann	MERCK2245	3177
23599	7590	07/19/2004	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			QUAN, ELIZABETH S	
			ART UNIT	PAPER NUMBER
			1743	

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/856,661

Applicant(s)

HOHMANN ET AL.

Examiner

Elizabeth Quan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/4/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/4/04 & 8/2/01 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the fluid line (10b) as recited in claim 2 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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3. Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It appears that the description is directed toward an amorphous concept in which the technology can be used with various microcomponents and the electrical contact surfaces can be used for measuring, heating, cooling, etc. The disclosure does not describe how the invention works but vaguely discloses components of the invention and some of the functions it can perform. It is also unclear how the electrical contact surfaces work and how they interact with the fluid lines.

4. Claims 1, 2, 5, 7, 9, 12, 14 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the line connections being provided in one sidewall (9) of the insertion of the support rail, does not reasonably provide enablement for the line connection being provided in at least one of two sidewalls (9,12) of the insertion slot of the support rail. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. The instant specification on page 5, first paragraph disclose "A plurality of holes...each intended for the accommodation of a screw connection 10a through which liquid or gaseous substances are fed to or discharged from the microcomponent 1 are provided in one side wall 9 of the insertion slot 4." The instant specification further discloses that the other sidewall is provided with electrical contact surfaces 13, such as contact springs, that come into contact with the associated electrical contacts on the outer surface of the microcomponent. The instant drawings

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support the instant specification by showing sidewall 9 with line connections and sidewall 12 with electrical contact surfaces. Neither the instant specification nor instant drawings disclose the possibility of line connections in both sidewalls as the claim recites, "line connections being provided in at least one of two sidewalls (9,12)." If both sidewalls had line connections, the instant specification and drawings do not disclose how line connection and electrical contact surfaces coexist, relate, and interact with each other. The same type of problem occurs in claim 2 in which the specification is enabling for the one of the sidewalls (9) of the insertion slot has at least one threaded hole (10) therethrough but does not reasonably provide enablement for at least one of the side walls (9) of the insertion slot (4) has at least one threaded hole (10) therethrough since the instant disclosure does not disclose the possibility of threaded holes in both sidewalls. The same type of problem occurs in claim 5 in which the specification is enabling for the line connections provided in one of the sidewalls of the insertion slot (16) but does not reasonably provide enablement for providing line connections in at least one of the side walls of the insertion slot (16) since the instant disclosure does not disclose the possibility of line connections in both sidewalls. The same type of problem occurs in claim 7 in which the specification is enabling for the electrical contact surfaces provided in one of the sidewalls of the accommodation slot (20) but does not reasonably provide enablement for providing electrical contact surfaces in at least one of the side walls of the accommodation slot (20) since the instant disclosure does not disclose the possibility of electrical contact surfaces in both sidewalls. Since claim 9 is a combination of claims 1, 2, and 8, the above comments on claims 1 and 2 apply to claim 9. Since claim 12 is the same as claim 5, the above comments on claim 5 apply to claim 12. Since claim 14 is the same as claim 7, the above comments on claim 7 apply to claim 14.

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5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is suggested that the sidewalls be represented as first sidewall and second sidewall in claims 1-14. It is also noted that the recitation of "in at least one of two sidewalls" is unclear since the disclosure does not provide for any element to be in both sidewalls and incorrectly limits the structure to have only two sidewalls when it has more than that.

7. Claims 1, 9 are rendered indefinite based on the recitation "the interconnection support having at least one support rail (2) on the interconnection support which is attached to a support plate and which has an insertion slot (4) for the accommodation of at least a first insertion edge (5) of a plate-like microcomponent (1), the interconnection support having line connections...provided in at least one of the two sidewalls (9,12) of the insertion slot (4) of the support rail (2)". It appears that the interconnection support is an all-encompassing term that comprises several elements, including the at least one support rail, support plate, insertion slot, and line connections, such that it does not make sense when it is recited that the interconnection support has at least one support rail on the interconnection support. It is also unclear what is attached to the support plate. Is it the interconnection support or at least one support rail? It is also unclear which has an insertion slot. Is it the interconnection support or at least one support rail? It appears that the at least one support rail does not accommodate at least a first insertion edge of the microcomponent as recited since it accommodates only a first insertion edge of the microcomponent; therefore, "at least" before "a first insertion edge" should be omitted.

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8. Claims 2, 9 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: line connections, threaded hole, fluid coupling, and fluid line. It appears that claim 2 is further limiting the line connections recited in claim 1. However, claim 2 does not relate the threaded hole, fluid coupling, and fluid line with the line connections of claim 1. The same problem occurs in claim 9 in which the line connections recited earlier in the claim should be related with the threaded hole, fluid coupling, and fluid line recited later in the claim.

9. Claim 4 and 11 recite the limitation "the electrical contact surfaces". There is insufficient antecedent basis for this limitation in the claim.

10. Claims 4 and 11 are rendered indefinite since it is unclear whether the electrical contact surfaces (13) or microcomponent is arranged between the at least one threaded hole. If it was intended to be electrical contact surfaces, the electrical contact surfaces are not arranged between the at least one threaded hole. They are arranged in the sidewall facing the sidewall with at least one threaded hole. If it was intended to be the microcomponent, the microcomponent is arranged between the at least one threaded holes and the electrical contact surfaces. The claim does not specify the element that the electrical contact surfaces or microcomponent is between in conjunction with the at least one threaded hole. Was it intended that the electrical contact surfaces (13) or microcomponent be between two threaded holes? Or between the at least one threaded hole and another element?

11. Claims 5 and 12 are rendered indefinite by the recitation "line connections (13) for electrical lines (18) connected to associated connections in at least one outside surface of the

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plate-like microcomponent (1) are provided in at least one of two sidewalls defining the insertion slot (16) of the connection rail (15)” since claim 1 has referred to the line connections being constructed and arranged...to transfer fluid materials to and from the plate-like microcomponent. It appears that claim 1 has narrowed the line connections to those involved in transferring fluid materials to and from the microcomponent even though reference character “13”, which represents electrical contact surfaces, is placed next to “line connections” in the claim. Since the line connections are those involved in transferring fluid materials, the line connections do not include the electrical lines as recited in claim 5.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,519,635 to Miyake et al.

Miyake et al. disclose an interconnection support for plate-like microcomponents (11,12,13) (fig. 1). The support has at least one support rail, which is attached to a support plate, defining an insertion slot for the accommodation of an insertion edge of a plate-like microcomponent (11,12,13) (fig. 1). Line connections, which are provided in at least one of the two side walls of the insertion slot of the support rail, are connected to associated connections on the outside of the plate-like microcomponent (figs. 1 and 3).

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14. Claims 1, 3, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,985,129 to Burd.

Burd discloses an interconnection support (11,12,13) for plate-like microcomponents (10) constructed and arranged for receiving fluid material to carry out chemical reactions (figs. 1-4). The plate-like microcomponents comprise plane-parallel plates superimposed on one another in which the plane-parallel plates has surface structures providing space for chemical reactions (figs. 1-4). The interconnection support has at least one support rail (11,12) attached to support plate (13) (figs. 1-4). The at least one support rail and support plate form an insertion slot for the accommodation of at least a first insertion edge of a plate-like microcomponent (figs. 1-4). The interconnection support has line connections (61,62,80,81) constructed and arranged to be connected with associated connections through at least one outside surface (43,44) of the plate-like microcomponent to transfer fluid materials to and from the plate-like microcomponent (figs. 1-4). The line connections are provided in a sidewall of the insertion slot, which has a threaded hole (61) for the accommodation of a threaded fluid coupling (20) to couple a fluid line to the threaded hole (figs. 1-4). A spring (23), which is arranged at a first end of the insertion slot, acts in the longitudinal direction of the slot to press the plate-like microcomponent against a centering stop at a second end of the insertion slot (figs. 1-4).

15. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by EP 0 040 186 to Langstrom.

Langstrom discloses an interconnection support for plate-like microcomponents constructed and arranged for receiving the fluid materials to carry out chemical reactions (figs. 5 and 6). The interconnection support has a support rail (21) attached to support plate

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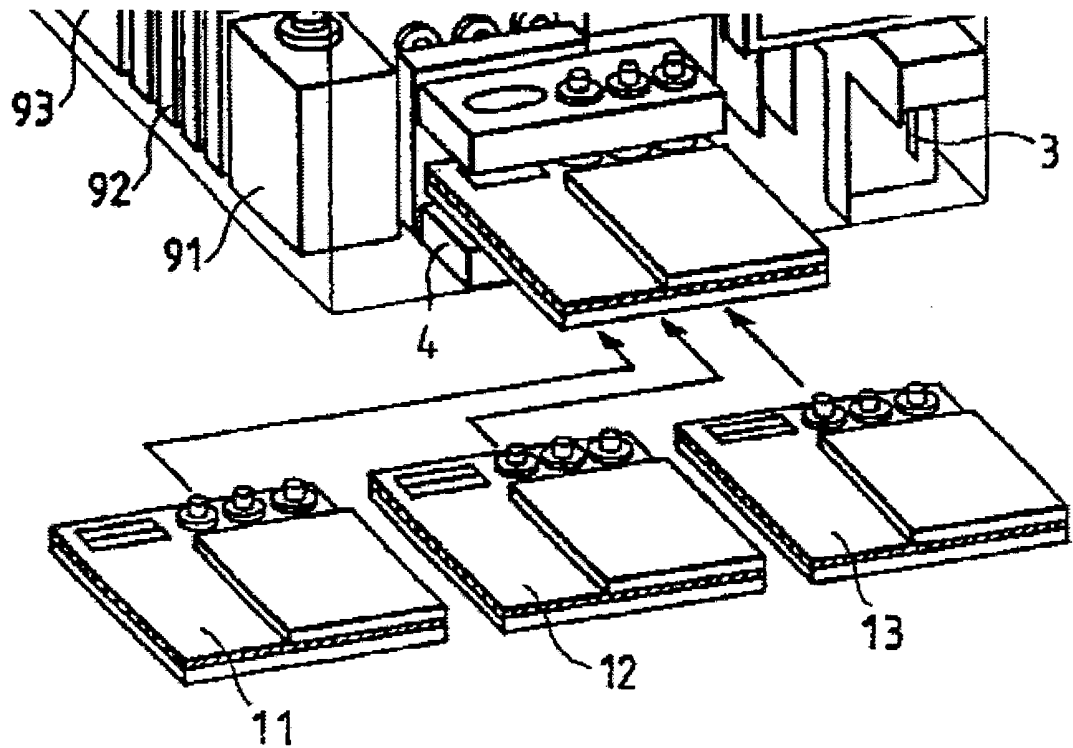
characterized by the walls forming frame (1) (figs. 1-8). The combination of the walls and frame form an insertion slot for accommodating an edge of the plate-like microcomponent (9a,9b) (figs. 1-8). Line connections (14) are provided in the support rail that forms a side wall of the insertion slot for connection with the outside surface of the plate-like microcomponent to transfer fluid materials to and from the plate-like microcomponent (figs. 1-8).

Response to Arguments

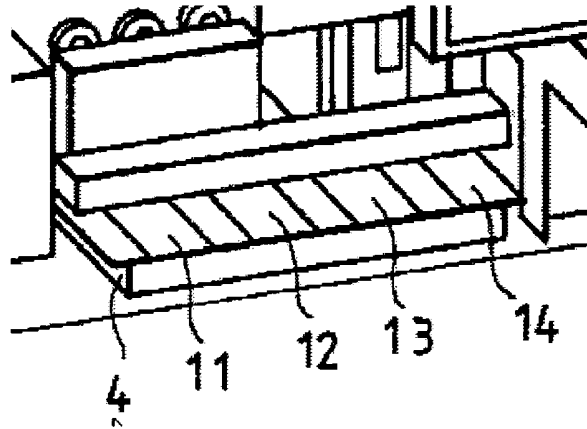
16. Applicant's arguments filed 5/4/2004 have been fully considered but they are not persuasive.

17. Applicant argues that Miyake et al. do not disclose a support rail 2. Applicant argues that there is not indication that element 4 is a support rail attached to a support plate. Applicant argues that one cannot determine from Fig. 1 of Miyake et al. '635 just what item 4 is attached to. Applicant argues that item 4 might be merely proximate the structure behind it and there is no disclosure in Miyake et al. that "liquid and signal connectors 4" provide a support rail attached to a support plate. Applicant argues that fig. 11 does not disclose that the liquid and signal connectors 4 comprise a support rail attached to a support plate. Applicant argues that neither fig. 1 nor fig. 11 show a support rail with an insertion slot. Applicant states that fig. 1 does disclose a space between upper and lower component, but neither of these components is disclosed as a support rail attached to a support plate.

18. Examiner argues that fig. 1 shows a support rail forming an insertion slot by which analytical units are inserted. As shown below, each of the analytical units may be sandwiched by support rails one of which is denoted with reference character "4". An analytical unit is shown sandwiched in between the rails. It appears that the rails are attached to a support plate.



Examiner argues that fig. 11 shows a support rail that forms a slot by which a plurality of analytical units is inserted simultaneously. As shown below, the analytical units appear to be represented as a thin sheet inserted underneath an elongated rectangular block and above a rectangular slab. Even if one were to argue that the analytical units are not inserted between the support rails, it is emphasized that the current claim requires "at least one support rail", such that the support rail in the form of an elongated rectangular block forms an open slot with the rectangular slab below it for placement of the analytical unit above the rectangular slab against the support rail. In this case, the rectangular slab may be considered either another support rail or support plate by which the elongated rectangular block support rail is attached.



Examiner argues that the support rails of either figs. 1 or 11 must be attached to another structure otherwise the support rails would be moved or removed during insertion or removal of the analytical unit, and this support structure can be considered a support plate. Furthermore, the support rail has to be attached to other structure in order to connect the analytical units to elements within the main body (2), such as pump-valve controller (61) and signal processor (62), to provide for chemical analysis. Figs. 3, 12, and 15 show that the support rail(s) is an interface by which the analytical units may connect with other processing elements. The support rail(s) are connected and attached to other structure and processing elements to form a fixed, stationary support to hold analytical units and provide communication between the analytical units and processing elements to perform analysis.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (571) 272-1261. The examiner can normally be reached on M-F (8:00-4:30).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elizabeth Quan
Examiner
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eq


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